Figure 1

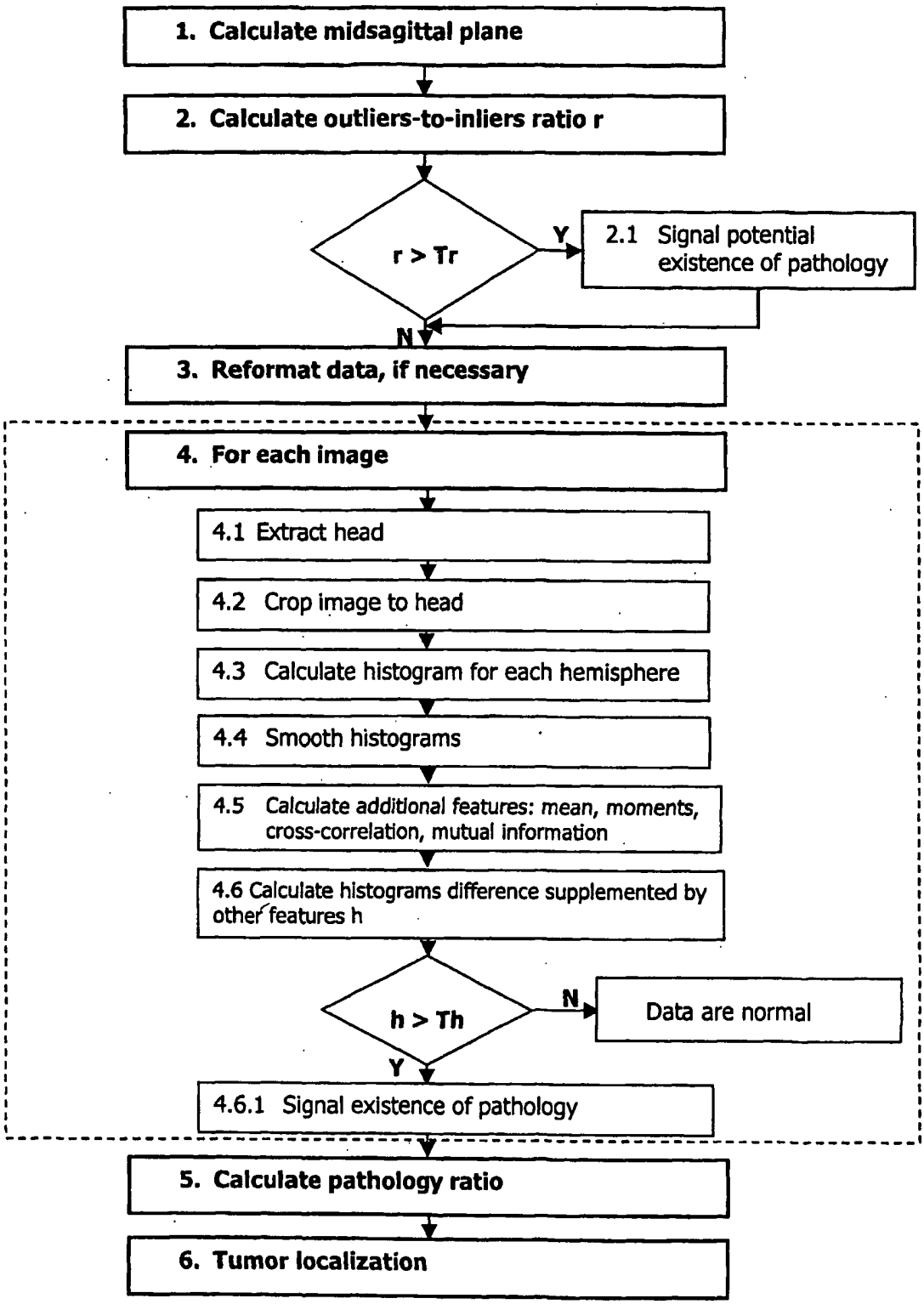
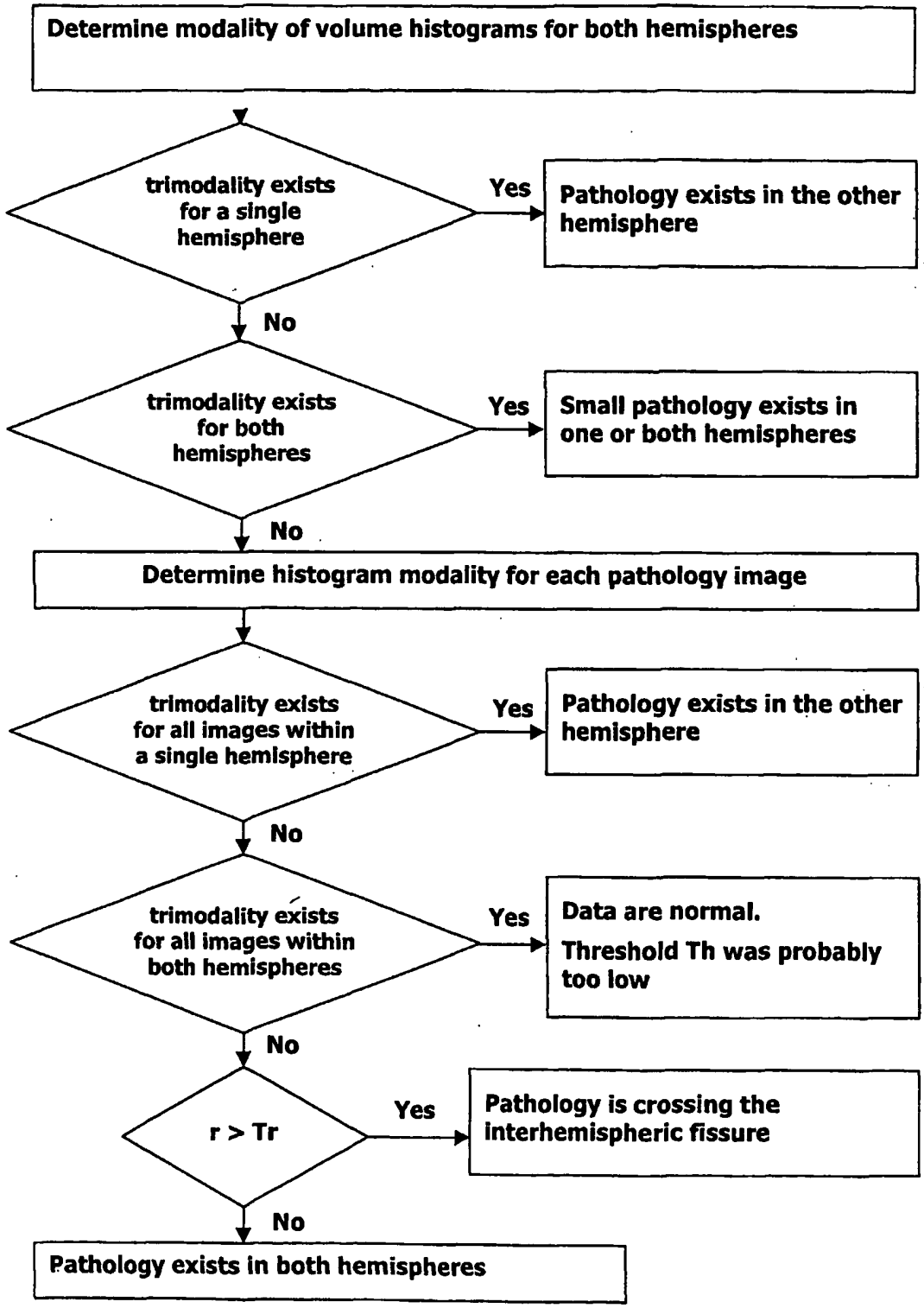

1. Calculate midsagittal plane
2. Calculate outliers-to-inliers ratio r
r > Tr
Y
2.1 Signal potential existence of pathology
N
3. Reformat data, if necessary
4. For each image
4.1 Extract head
4.2 Crop image to head
4.3 Calculate histogram for each hemisphere
4.4 Smooth histograms
4.5 Calculate additional features: mean, moments, cross-correlation, mutual information
4.6 Calculate histograms difference supplemented by other features h
h > Th
N
Data are normal
Y
4.6.1 Signal existence of pathology
5. Calculate pathology ratio
6. Tumor localization

Figure 2


Determine modality of volume histograms for both hemispheres
trimodality exists for a single hemisphere
Yes
Pathology exists in the other hemisphere
No
trimodality exists for both hemispheres
Yes
Small pathology exists in one or both hemispheres
No
Determine histogram modality for each pathology image
trimodality exists for all images within a single hemisphere
Yes
Pathology exists in the other hemisphere
No
trimodality exists for all images within both hemispheres
Yes
Data are normal.
Threshold Th was probably too low
No
r > Tr
Yes
Pathology is crossing the interhemispheric fissure
No
Pathology exists in both hemispheres